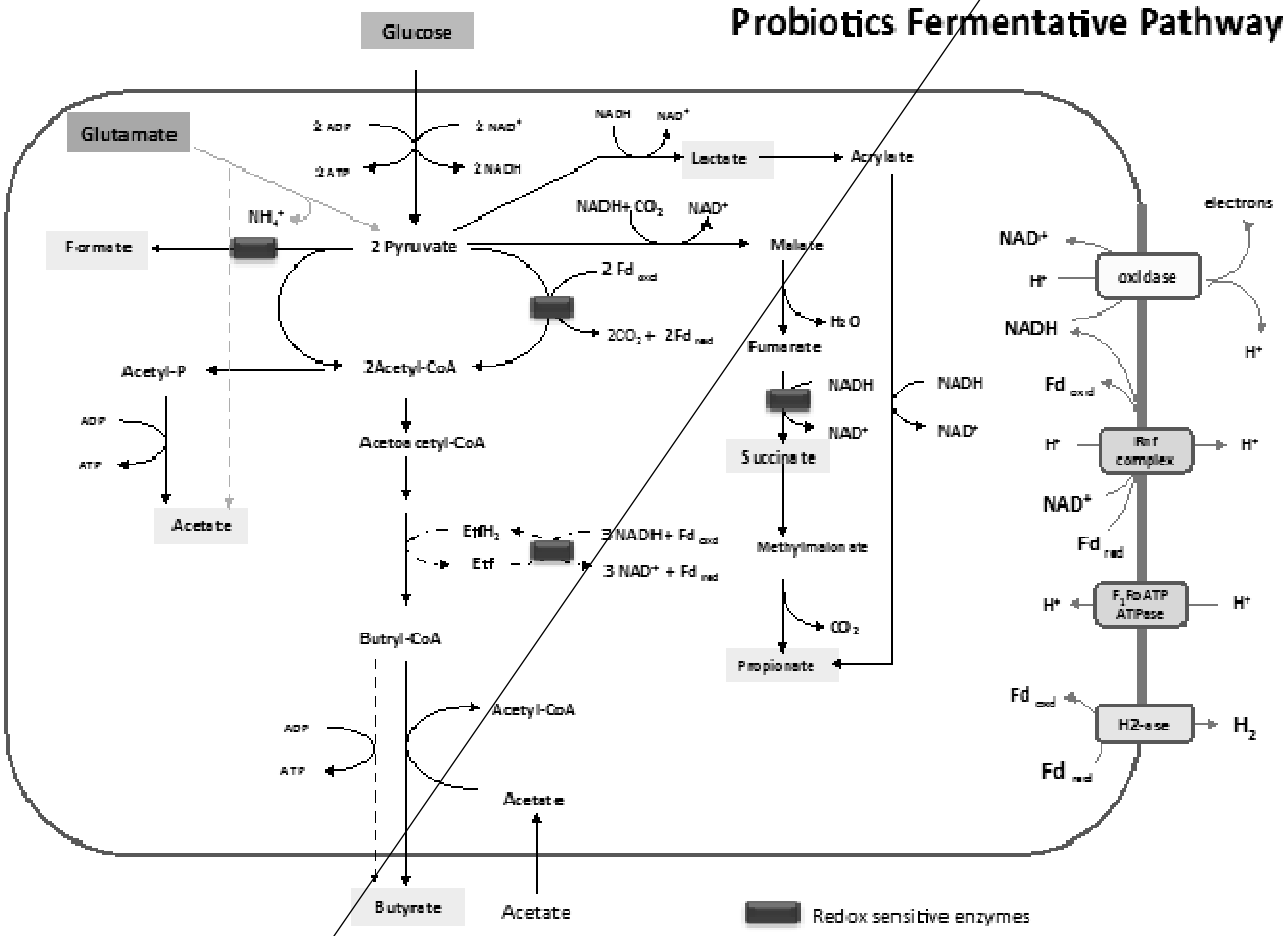

Probiotics Fermentative Pathway
Glucose
Glutamate
2 ADP
2 ATP
2 NAD+
2 NADH
NADH
NAD+
Lactate
Acrylate
NADH+ CO2
NAD+
NH4+
Formate
2 Pyruvate
Malate
2 Fd oxid
2CO2 + 2Fd red
H2 O
Fumarate
Acetyl-P
2Acetyl-CoA
NADH
NAD+
NADH
NAD+
Succinate
ADP
ATP
Acetoacetyl-CoA
Acetate
EtfH2
Etf
3NADH+ Fd oxid
3 NAD+ + Fd red
Methylmalonate
CO2
Propionate
Butyryl-CoA
ADP
ATP
Acetyl-CoA
Acetate
Butyrate
Acetate
Redox sensitive enzymes
electrons
NAD+
H+
oxidase
NADH
H+
Fd oxid
H+
Rnf complex
H+
NAD+
Fd red
H+
F1F0ATP ATPase
H+
Fd oxid
H2-ase
H2
Fd red

Figure 3

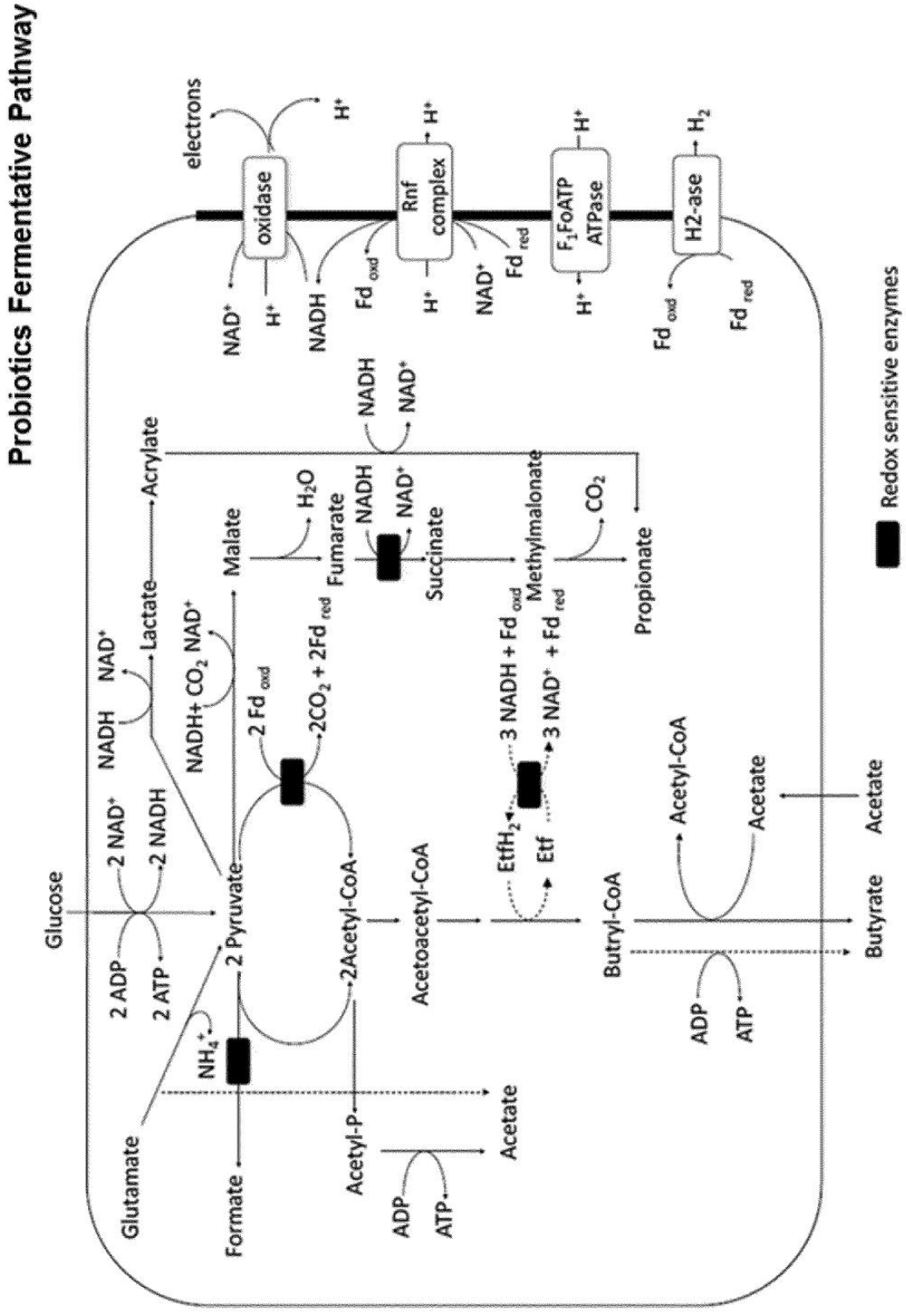

Probiotics Fermentative Pathway
electrons
oxidase
Rnf complex
F1FoATP ATPase
H2-ase
H+
H2
NAD+
NADH
Fd oxd
Fd red
Glucose
2 NAD+
2 NADH
2 ADP
2 ATP
2 Pyruvate
Lactate
Acrylate
Malate
H2O
Fumarate
Succinate
Propionate
Methylmalonate
CO2
NADH+ CO2 NAD+
2 Fd oxd
2CO2 + 2Fd red
3 NADH + Fd oxd
3 NAD+ + Fd red
EtfH2
Etf
2Acetyl-CoA
Acetoacetyl-CoA
Butryl-CoA
Acetyl-CoA
Acetate
Butyrate
Glutamate
NH4+
Formate
Acetyl-P
ADP
ATP
Redox sensitive enzymes

FIGURE 3